



**AIRPORTS DIVISION
2700 East Airport Service Drive
Lansing, Michigan 48906**

**GUIDELINES FOR DEVELOPING AIRPORT
EXHIBIT "A" PROPERTY MAPS**

November 3, 2005

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INTRODUCTION

Airport sponsors accept obligations to maintain and operate their airports each time they accept a federal grant. One of the most significant obligations is the dedication of the land occupied by the airport for aeronautical use. The Airport Property Map, commonly referred to as an Exhibit "A", documents the land interests that are dedicated to airport purposes. It is imperative to prepare the Exhibit "A" so it provides all the required information for both the airport sponsor and Federal Aviation Administration (FAA), and so it is easily kept up-to-date as property is acquired by (or released from) the airport.

Airport sponsors are responsible for keeping the Exhibit "A" updated. It is important to update the Exhibit "A" upon completion of each property acquisition project, or annually in the case of long-term acquisition projects.

The advent of Computer Aided Drafting (CAD) systems has made the development and updating of the Exhibit "A" much easier and more accurate; therefore, an attempt to redraw the Exhibit "A" to a CAD system should be made at the earliest opportunity.

GENERAL

Each Airport Improvement Program (AIP) project includes by reference an Exhibit "A."

The Exhibit "A" is to distinctly define, by individual parcel or tract, and establish a continuing record for the following:

- a. Land interests.
 1. Acquired by the airport sponsor on or before May 13, 1946.
 2. Acquired by the airport sponsor subsequent to May 13, 1946.
 3. For which federal aid has been granted under a prior federally assisted project.
 4. Conveyed by a federal surplus property transfer.
- b. Types of land interests held (i.e., fee, avigation easement, etc.).
- c. Easement interests held by others (utility, etc.).
- d. The boundary of the airport fee property and boundaries of off-site airport holdings. (Example: wetland mitigation)

If the Exhibit "A" is to be prepared by a consultant, it is important for the airport sponsor to determine exactly what information and documentation is available to the consultant, and any additional research and survey work to be provided by the consultant. This division of responsibilities must be well documented in the consultant agreement.

The Exhibit "A" must be based on a thorough review of all land records. Existing survey information, when reliable, should be used. Such information can be obtained from prior partial surveys, airport layout plans (ALP), zoning plans, construction plans, deeds and recorded plats. Bearings from such information should not be shown on the Exhibit "A" boundary unless it can be ascertained that such bearings were determined from a base line common to several surveys. Bearings taken from a single survey may, however, be used to determine angles between lines. In some cases, a boundary survey may be necessary to resolve boundary disputes.

The airport sponsor, in cooperation with AERO and the FAA, will determine if a boundary survey will be accomplished dependent on need, time constraints, and funding authorizations. Dimensions and bearings obtained shall be shown on the Exhibit "A". All survey work necessary shall be performed by qualified persons to an accuracy of not less than that required by the Michigan Plat Law (third order traverses).

Costs of updating an Exhibit "A" can be made an eligible and allowable cost under a project grant agreement with prior approval from AERO.

The Exhibit "A" should be prepared using AutoCAD. The consultant shall provide the following to AERO:

- A. Two prints of the preliminary Exhibit "A". Dependant upon the quality of the initial drawing(s), additional revised preliminary prints may be required.
- B. Two full-sized prints (24" x 36"), and a reproducible mylar copy (24" x 36 of the final approved (by airport sponsor, AERO, FAA) Exhibit "A".
- C. A copy of the AutoCAD file (on disc or CD ROM).
- D. A completed Exhibit "A" checklist.

DRAWINGS

The Exhibit "A" shall consist of one or more sheets of drawings. The first sheet shall be the basic property map, including the entire airport property and airport runway(s), showing all parcels with identifying numbers and other information. Additional sheets may be added to show details, enlargements, tables, plats, etc., as necessary. Parcel number should be assigned by AERO for each deed description as identifying numbers. Details of the drawings shall be as follows:

A. Basic Details.

1. All drawings to scale and oriented alike, scale and north arrow shown.
2. The Exhibit "A" drawings shall include the following:
 - a. Title block with name of airport, city location, site number, title - Exhibit "A" Property Map, and sheet number (sheet __ of __ sheets).
 - b. AIRPORTS DIVISION approval block for Mark Grennell, Supervisor, Project Support Unit, signature and date.
 - c. Revision block with date, purpose, and by whom.
 - d. Preparer's block with name, address, phone, designed by, drawn by, checked by, date, and approval by a licensed surveyor or engineer.
 - e. Sponsor approval block with governing authority name, signature, title of signer, and date.
3. Surveyed dimensions, distances, and stationing should be shown in feet and rounded to the nearest hundredth.
4. Angles and bearings should be shown in degrees, minutes and seconds.
5. Section and quarter corners should be shown and labeled with section numbers, county, township, town and range identified. Monumented property corners should be depicted.
6. Depict roads, streets, highways and railroads with names or designations, right-of-way (ROW) widths, location of closures and vacations with dates and name of agency taking official action. If property has been released, so designate with an FAA approval date.
7. Legend on each sheet identifying each type of line or symbol used that is not identified by note (see page 9 for suggested legend symbols.) Except when not feasible, legends should be consistent on all sheets.
8. Notice of airport zoning (if applicable) with adopted, effective, and amended dates. This information is available from the Airports Division.

9. Notice of approach protection plan as approved by the Michigan Aeronautics Commission with effective, and amended dates. This information is available from the Airports Division.
10. The following notice shall be placed in a prominent location on the first sheet of the drawings.

NOTICE: The sale or long term lease (+5 years) of any airport property for non-aeronautical purposes is prohibited without prior written FAA approval.

B. Airport Runway Details.

1. Delineate existing runway configuration(s) (Runway 18/36 - 3800' x 75') with number designations, stationing of ends, and displaced thresholds.
2. Show existing runway protection zones (RPZ) with dimensions, type of approach, and slope.

Examples of information required: 20:1 visual approach
 RPZ 250' x 450' x 1000'

NOTE: Approach and RPZ information is required for each existing runway end. In some cases, to avoid clutter on the drawing, the required data can be placed in tabular form at an appropriate location.

3. Show survey ties of runway(s) to section line system. All paved runways shall be tied to the closest section or quarter section line intersected by the runway centerline or centerline extended at each runway end. Such ties shall include the runway stationing at the point the runway centerline crosses the section or quarter section line, the angle between the runway centerline, and the section or quarter section line.

C. Parcel Details.

1. Show existing airport boundary lines. Show dimensions and bearings of boundaries.
2. Show the boundary of each parcel of land for which interest has been acquired. A parcel is determined according to existing or prior ownership for which a single legal instrument is required. All contiguous land acquired on or before May 13, 1946, may be shown as a single parcel and designated as Area 1.
3. Identify each fee simple parcel with a numerical designation and each aviation easement parcel with an alphanumeric designation (i.e., E2). If the airport has had a prior federal land project, continue the existing identification system. Do not duplicate parcel numbers. Each fee simple parcel and aviation easement parcel must be given a unique number.

4. When parcels cannot be readily identified because of scale, show a detailed blowup of the rectangular land system with metes and bounds (this information may be provided on additional sheets.)
5. The Exhibit "A" should show the following information for each parcel or tract. The data should be summarized in tabular form (see Table A). A single combined summary table is recommended. Section numbers may be added for large airports. Provide space for additions to tables, sufficient to cover the future requirements shown on the Airport Layout Plan.
 - a. Federal project number applicable to parcel.
 - b. Parcel number assigned or approved by AERO. *each fee simple and avigation easement interest must have their own unique number even if obtained from the same grantor.
 - c. Name of grantor.
 - d. Type of instrument of acquisition.
 - e. Liber and page numbers of recording.
 - f. Date of acquisition.
 - g. Acreage.
 - h. Controlling heights for avigation easements (stationing of beginning of the clear RPZ and the approach slope ratio (20:1, 34:1, 40:1, or 50:1).
 - i. Notes (optional).
6. Indicate clearly, by shading or hatching, parcels depicting avigation easement areas. Show dimensions or size of this area where feasible.
7. When it cannot be determined from acquired descriptions that parcels of land are contiguous to other airport parcels, sufficient survey data shall be accomplished to determine the relationship between such parcels and to establish any gaps in airport property interests that may exist. Results of such a survey may be shown on an appropriate sheet of the Exhibit "A."
8. Show and describe any easement interests held by others (utility, etc.). This information should be summarized in tabular form (see Table B).

TABLE A
TITLE INTEREST IN FEE & AVIGATION EASEMENT RIGHTS

A	B	C	D	E	F	G	H
Federal Project Number	Parcel Number	Grantors	Type of Instrument	Liber and Page	Date Acquired	Acreage	Controlling Heights*
----	1	List Grantors	WD	----	09/13/39	160±	
----	E 2	F. Suomi	AE	----	11/01/42	8±	40:1 Sta. 0+00
9-20-089-C901	3	J.Q. Bates	WD	5096-72	06/02/46	40±	
9-20-089-C901 ----	4(a) 4(b)	F.M. Rowe F.M. Rowe	WD WD	5096-81 5096-81	06/28/46 06/28/46	30± 10±	
9-20-089-C901	E 5	J.Q. Bates	AE	5096-72	06/02/46	10±	40:1 Sta.7+00
9-20-089-6004	6N	P.D. Jones	CJ	6071-23	07/12/52	0.723±	
9-20-089-6004	E 7	W.S. Chan	AE	6071-34	09/11/52	0.65±	50:1 Sta.7+00
8-26-0092-01	9	Marlow, Inc.	QC	8056-04	05/09/73	1.5±	
8-26-0092-01	E10	P.R. West	AE	8055-99	04/30/73	0.5±	20:1 Sta.2+00
6-26-0092-03 3-26-0092-0189	11 13 14-Future 15 etc.	E. Poster et al H. Smith	GD WD	9879-93 10500-101	10/22/77 12/01/88	15.2+ 2.5±	
6-26-0092-03	E12	State DNR	AE	9879-84	10/16/77	4.5±	20:1 Sta.2+30
Total Fee Property Interest				259.923+ Acres			
Total Avigation Easement				23.65+ Acres			

Instrument Legend (Examples): (Excerpts only have been shown here; all parcels and easements are to be listed in the order of the identifying number system.)

AE-Avigation Easement; CE-Clearing Easement; CJ-Consent Judgment; GD-Guardian Deed; LE-Light Lane Easement; QC-Quit Claim Deed; WD-Warranty Deed

*Controlling heights column lists the criteria used in determining the governing heights at which the avigation easement interests were acquired. Some easements will state only the Mean Sea Level (MSL) height; however, the approach slope and stationing at which the slope starts (not runway end) must be listed.

Table B

OTHER EASEMENT INTERESTS

Parcel	Width	Use	Grantee	Liber Page	Recorded Date	Subordination Agreement Date
A		Gas Line	Consumers Power Company	L99-P12	08/02/92	08/03/92
B	40'	Access Easement	Airport	L25-P35	04/23/89	
C		Overhead Communication Line	Michigan Bell Telephone Company	Unrecorded		
D		Access Road Right of Way	County Road Commission	Statutory		

D. Plat Details.

1. When the airport land interests affect portions of a subdivided plat, the plat layout should be in sufficient detail. If detailed information is expanded for legibility, information may be shown on a separate sheet.
2. If plat is shown, the following plat information should be provided:
 - a. Plat name, scale, north arrow, section, town and range numbers (if not already provided.)
 - b. Plat ties to the rectangular survey system.
 - c. Tie runway alignment and stationing to plat boundary. When aviation easements are required over lots in a platted subdivision or small tracts described by metes and bounds, the runway centerline of the affected runway shall be tied to the subdivision or tracts by stationing, distance and angles in a similar manner as described for ties to section lines. Such ties shall be sufficient that aerial contours may be accurately calculated mathematically over the lots and small tracts.
 - d. Add parcel or easement identification numbers, identical to those shown on the basic Exhibit "A" sheet to affected lots.
 - e. Show additional information on easements or other encumbrances that cannot be readily shown on the basic Exhibit "A" sheet.

OWNERSHIP OF DOCUMENTS

Original tracings and photo transparencies, field notes, title searches, AutoCAD files, and other documents, prepared or obtained within the costs of preparing the Exhibit "A" or the making of a boundary or other survey, shall become the property of the airport sponsor.

The airport sponsor shall make these documents available to AERO or FAA, as requested.

When revisions are made to an Exhibit "A" by other than the original preparer, the original preparer will not be held responsible for the information shown on the revised Exhibit "A". The name or logo of the original preparer shall be removed from revised copies.

CONCLUSION

For samples or questions, please contact the Michigan Department of Transportation, Airports Division, Project Support Unit, 2700 East Airport Service Drive, Lansing, Michigan 48906, (517) 335-9755.

GUIDELINES FOR DEVELOPING AIRPORT EXHIBIT 'A' PROPERTY MAP

LEGEND

APPROPRIATE SYMBOLS

LAYER	DESCRIPTION	COLOR	LINE TYPE	SYMBOL
EX-CTY-LIMIT	CITY LIMITS	RED		
EX-PROPLINE	EXISTING AIRPORT PROPERTY LINE	CYAN	PHANTOM2	
EX-PROPLINE	EXISTING MONUMENT	CYAN		
EX-PROPLINE	EXISTING IRON PIPE OR RR SPIKE	CYAN		
EX-SLINE	SECTION LINES	CYAN	PHANTOM	
EX-SLINE	SECTION CORNER, QUARTER CORNER	CYAN		
EX-PARCEL	PROPERTY LIMITS & PARCEL NO.	CYAN	DASHDOT2	
EX-EASE	AVIGATION EASEMENT & PARCEL NO.	CYAN	DASHDOT2	
EX-UTILEASE	OTHER EASEMENT INTERESTS	BLUE	HIDDEN2	
EX-ROW	EXISTING RIGHT OF WAY	RED	DASHED	
EX-ROW	EXISTING RIGHT OF WAY MARKER	RED		
EX-ROW	RELEASE OF RIGHT OF WAY	RED		
EX-SURVEY	EXISTING BENCH MARK	CYAN		
EX-SURVEY	EXISTING P.K. NAIL	CYAN		
EX-SURVEY	EXISTING SPOT ELEVATION	CYAN		

MEASUREMENT NOTATION

660' (A) ASSUMED
 660.11' (C) COMPUTED
 660.12' (D) DEED OR PLAT
 660.13' (S) SURVEYED

NOTES: LINETYPES ARE BASED ON AutoCAD RELEASE 14.

LINE WIDTHS ARE .35mm(.014in.) FOR STANDARD LINES
 AND .80mm(.031in.) FOR POLYLINES(WIDER LINES).

MINIMUM LETTER HEIGHT IS 0.12in. OR 80 LEROY GUIDE.
 TEXT SHOULD APPEAR ON A LAYER WHICH BEST REPRESENTS
 THE CONTEXT OF THE TEXT.

CHECKLIST FOR EXHIBIT "A" PROPERTY MAPS

Airport: _____ Location: _____

NO.	DESCRIPTION	COMMENTS	COMPLETED	
			YES	NO
1.	Scaled Drawings: Two full- sized prints (24" x 36") Reproducible mylar copy (24" x 36") One half-sized print (12" x 18")			
2.	AutoCAD file (email or CD) sent to MDOT			
3.	Title block identifying airport, site number, location (city/town/range), title - Exhibit "A" Property Map			
4.	Bureau of Aeronautics approval block for Mark Grennell, Supervisor, Project Support Unit, signature and date			
5.	Revision box with date, purpose, and by whom			
6.	Preparer's block with name, address, phone, designed by, drawn by, checked by, date, and approval by a licensed surveyor or engineer			
7.	Sponsor approval block with governing authority name, signature, title of signer, and date			
8.	Legend on each sheet identifying each type of line or symbol shown that is not identified by note			
9.	Notice of airport zoning and approach protection plan with applicable dates.			
10.	Notice shown on page 4 of Exhibit "A" guidelines should be placed on first sheet			
11.	Section and quarter corners shown and labeled (section number, county, township, town and range identified)			
12.	Roads, streets, highways, and railroads with names or designations. ROW widths, location of closures, and vacations with dates and name of agency taking action			

NO.	DESCRIPTION	COMMENTS	COMPLETED	
			YES	NO
13.	Existing runway configuration delineated on map with number designations, stationing of ends, and displaced thresholds (if applicable)			
14.	Existing runway length and width (Example: 3500' x 75')			
15.	Existing RPZ with dimensions, type of approach, and slope (Example: 20:1 visual approach RPZ 250' x 450' x 1000') Check to insure latest runway information shown			
16.	Survey ties of runway (s) to section line system			
17.	Bearings and distances for perimeter of existing airport property (distances in feet rounded to nearest hundredth and angles in degrees, minutes and seconds)			
18.	Boundary and numerical designation for each parcel that has been acquired. Boundary and alphanumerical designation for each aviation easement (also shade). Information should be summarized in tabular form as shown below			
	a. Federal project number applicable to parcel			
	b. Parcel number assigned by AERO			
	c. Name of grantor			
	d. Type of instrument of acquisition			
	e. Liber and page numbers of recording			
	f. Date of acquisition			

NO.	DESCRIPTION	COMMENTS	COMPLETED	
			YES	NO
	g. Acreage			
	h. If aviation easements are listed, give the controlled heights by glide angle and station at beginning of RPZ			
	i. Notes (optional)			
19.	Boundary and description of easements held by others (utility, etc.) Information should be summarized in tabular form as shown below			
	a. Parcel			
	b. Width			
	c. Use			
	d. Grantee			
	e. Liber page			
	f. Recorded Date			
	g. Subordination Agreement Date			
20.	If airport land interests affect portions of a subdivided plat , plat information should contain plat name, scale, section, town, and range numbers			
21.	Map clearly identifies location, type, and owner of encumbrances (roads, pipelines, pole lines, etc.)			
22.	Perimeter of airport and any off-site areas shown			
Land releases must be shown in a separate table with parcel, owner, interest, date sold, and liber/page.				
COMMENTS:				
COMPLETED BY:		DATE:		

APPROVED BY:

APPROVAL DATE:

AIRPORTS DIVISION USE ONLY

AIRPORT ZONING

AUTHORITY UNDER ACT 23 OF PUBLIC ACTS OF 1950
NONE

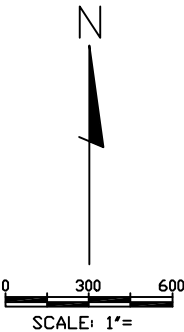
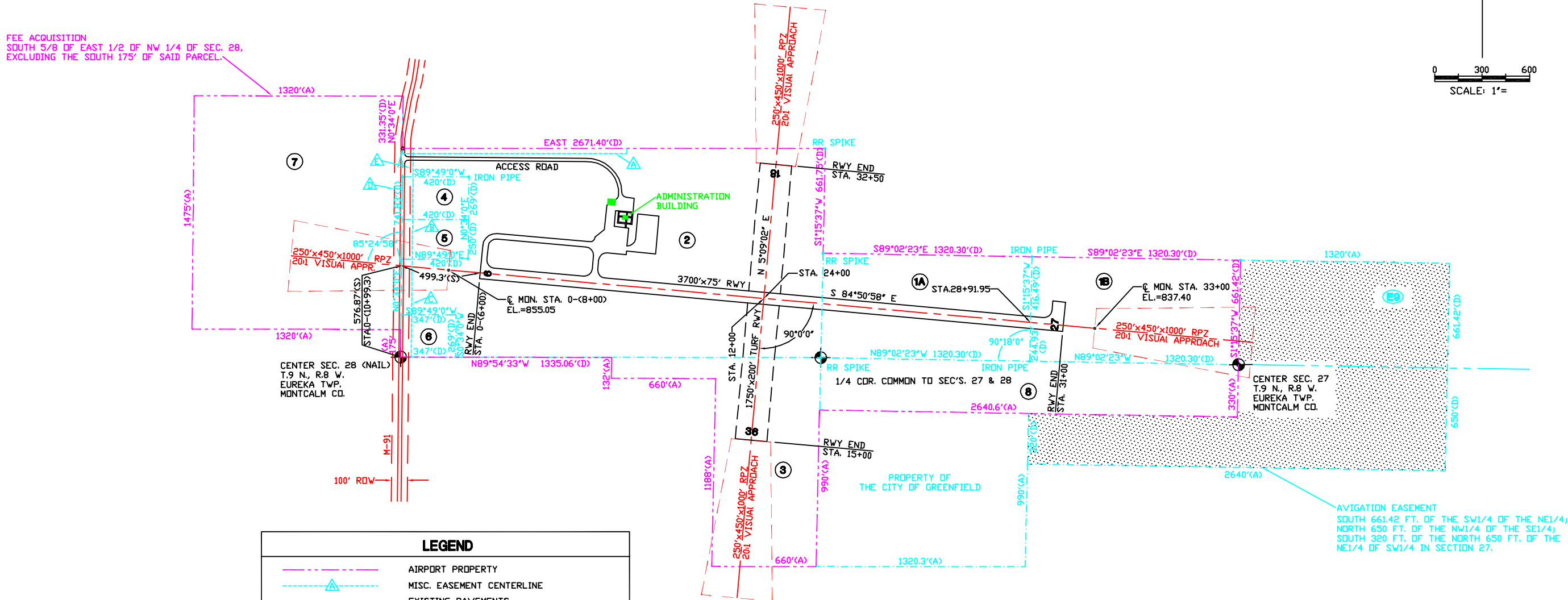
APPROACH PROTECTION PLAN

Approved by Michigan Aeronautics Commission _____

NOTICE

THE SALE OR LONG TERM LEASE (>5 YEARS) OF ANY
AIRPORT PROPERTY FOR NON-AERONAUTICAL PURPOSES
IS PROHIBITED WITHOUT PRIOR WRITTEN F.A.A. APPROVAL.

FEE ACQUISITION
SOUTH 5/8 OF EAST 1/2 OF NW 1/4 OF SEC. 28,
EXCLUDING THE SOUTH 175' OF SAID PARCEL.



LEGEND

- AIRPORT PROPERTY
- MISC. EASEMENT CENTERLINE
- EXISTING PAVEMENTS
- EX. RUNWAY PROTECTION ZONE
- SECTION CORNER
- SECTION LINE
- FEE TITLE PROPERTY - PARCEL & NUMBER
- AVIGATION EASEMENT - PARCEL & NUMBER
- EXISTING BUILDING
- IRON PIPE OR R.R. SPIKE
- MONUMENT

MEASUREMENT NOTATION

- 660'<A> ASSUMED
- 660.10'<C> COMPUTED
- 660.12'<D> DEED OR PLAT
- 660.14'<S> SURVEYED

OTHER EASEMENT INTERESTS

PARCEL	WIDTH	USE	GRANTEE	LIBER & PAGE	RECORDED DATE	SUBORDINATION AGREEMENT DATE
A*	65'	POLELINE-CONDUIT	CONS. POWER	267-342	08-20-38	
B	16.5'	CONDUIT-CABLE	MICH. BELL TELE.	500-387	02-14-77	
C	16.5'	CONDUIT-CABLE	MICH. BELL TELE.	500-391	02-14-77	
D**	50'	HIGHWAY R.O.W.	STATE OF MICH.	189-594	12-08-27	
E**	50'	HIGHWAY R.O.W.	STATE OF MICH.	189-588	12-08-27	

* SURFACE RIGHT RELEASE AS RECORDED IN L 583 P 1215.
** PARCELS FOUND IN HWY. RECORDS UNDER PROJ. 59-18 CONTROL SECTION 59031

AVIGATION EASEMENT
SOUTH 661.42 FT. OF THE SW1/4 OF THE NE1/4;
NORTH 650 FT. OF THE NW1/4 OF THE SE1/4;
SOUTH 320 FT. OF THE NORTH 650 FT. OF THE
NE1/4 OF SW1/4 IN SECTION 27.

TITLE KEY

W.D. = WARRANTY DEED
Q.C. = QUIT CLAIM
A.E. = AVIGATION EASEMENT

AIRPORT OWNER: CITY OF GREENFIELD, MICHIGAN

TITLE INTEREST IN FEE PROPERTY AND AVIGATION EASEMENT RIGHTS ARE AS FOLLOWS:

TOTAL FEE PROPERTY INTEREST: 209.04 ACRES*
TOTAL AVIGATION EASEMENTS: 49.42 ACRES*

FEDERAL PROJ. NO.	PARCEL	GRANTOR	TITLE	SEC.	LIBER & PAGE	DATE ACQUIRED	ACRES	CONTROLLING HEIGHT
9-20-056-701	1A	H. WEAVER	W.D.	27	326-204	02-20-50	20.0	
9-20-056-701	1B	I. WEAVER	W.D.	27	387-164	11-06-56	20.0	
9-20-056-701	2	N. GREEN	W.D.	28	322-546	11-30-49	75.2	
3-26-0040-0184	3	CONS. POWER	Q.C.	28	404-904	04-04-58	22.0	
3-26-0040-0184	4	B. HEATH	W.D.	28	412-793	08-18-16	2.59	
3-26-0040-0184	5	V. JOHNSON	W.D.	28	572-468	11-05-84	2.41	
3-26-0040-0184	6	D. WULF	W.D.	28	575-287	02-20-85	2.14	
3-26-0040-0184	7	H. BEACHLER	W.D.	28	573-989	12-27-84	44.7	
3-26-0040-0184	8	D.N.R. (NORTH 330' OF DEED IS PARCEL 8)	Q.C.	27	444-252	12-31-69	20.0	
	E-9	STATE OF MICHIGAN, D.N.R.	A.E.	27	622-234	05-24-95	49.42	201 STA. 33+00

CITY OF GREENFIELD

PREPARER'S BLOCK
AIRPORT CONSULTING ENGINEERS

GREENFIELD MUNICIPAL AIRPORT
GREENFIELD, MICHIGAN

EXHIBIT 'A' - PROPERTY MAP

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF AERONAUTICS
LANSING, MICHIGAN

BUREAU APPROVAL

MARK GREENELL, SUPERVISOR, PROJECT SUPPORT UNIT DATE

AutoCAD R12 FILE: 59-11EX-ADWG

SHEET 1 OF 1

THIS IS A SAMPLE ONLY

FILE NUMBER 59-11